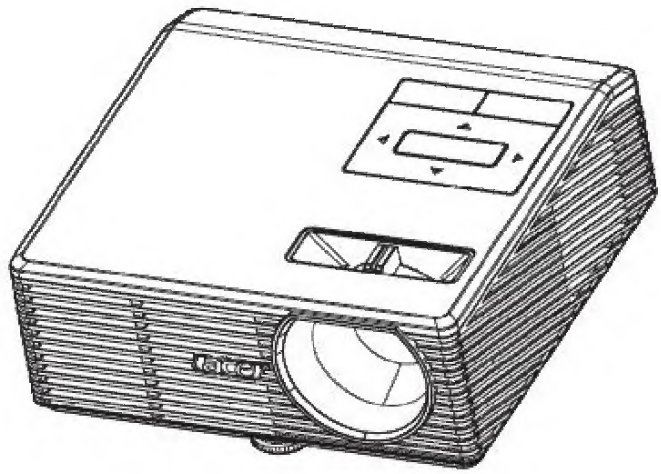
Acer K10
Service Manual

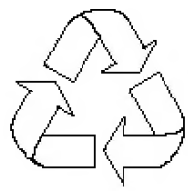


FORWORD

For your convenience, all service parts, identified in this manual are available through Acer's normal distribution channels.

In addition to service part number, the generic description has been given, where possible, to allow your service technicians to substitute equivalent components which might be available from other sources.

All orders for service parts will be honored. However, on instance where generic components are considered to be available from several common sources, as would be the case with an industry standard fuse, resistor, or semiconductor, it may be more economical and expeditious to purchase the part locally.



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Update History

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First edition completed

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Safety Instructions

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of the projector.

Components indicated by mark ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. It is, therefore, particularly recommended that replacement of there parts must be made by exactly the same parts.

SERVICE PERSONNEL WARNING

Eye damage may result from directly viewing the light produced by the lamp used in this equipment. Always turn off lamp before opening cover .The Ultraviolet radiation eye protection required during this servicing.

Never turn the power on without the lamp to avoid electric-shock or damage of the devices since the stabilizer generates high voltages (15kV-25kV) at its starts.

Since the lamp is very high temperature during units operation replacement of the lamp should be done at least 45 minutes after the power has been turned off, to allow the lamp cool-off.

SAFETY PRECAUTIONS

WARNING:

The chassis of this projector is isolated (COLD) from AC line by using the converter transformer. Primary side of the converter and lamp power supply unit circuit is connected to the AC line and is hot, which hot circuit is identified with the line (⚡) in the schematic diagram. For continued product safety and protection of personnel injury, servicing should be made with qualified personnel. The following precautions must be observed.

1:An isolation transformer should be connected in the power line between the projector and the AC line before any service is performed on the projector.

2:comply with all caution and safety-related notes provided on the cabinet back, cabinet bottom, inside the cabinet or on the chassis.

3:When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as, control knobs, adjustment covers or shields, barriers, etc.

DO NOT OPERATE THIS PROJECTOR WITHOUT THE PROTECTIVE SHIELD IN POSITION AND PROPERLY SECURED

4:Before replacing the cabinet cover, thoroughly inspect the inside of the cabinet to see that no stray parts or tools have been left inside.

Before returning any projector to the customer, the service personnel must be sure it is completely safe to operate without danger of electric shock.

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Conventions

The following conventions are used in this manual

Screen Messages	**Denote actual messages that appear on screen.**
Note	**Give bits and pieces of additional information related to he current topic.**
Warning	**Alert you any damage that might result form doing or not doing specific actions.**
Caution	**Give precautionary measures to avoid possible hardware or software problems.**
Important	**Remind you doing specific actions relevant to the accomplishment of procedures.**

Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, apart number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFER ENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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1 System Introduction

1.1 Technical Specification

⊙ **Display Type**	DLP Single Panel Projector
⊙ **Panel** *Model NO. *Size *Driver Type *Pixels (Resolution) *Pixel Failure (follow TI spec.)	Type Y 0.45" DMD 0.45 inch (single panels) DDP 2230 858 x 600 As shown below, based on "Image Quality Specification" announced by TI. The attachment is a tentative.
⊙ **Projection lens** *Fixed focus *F/No *Focal length *Offset *MTF *Lateral color at all field for any two wavelength image size	 F2 (Design value) 17.67 mm 100%+/-5% >50% @47lp/mm (typical) <7 μm 30" @ 1.2 m
*Distortion	TV Distortion <2.5 % (Definition and measuring method see Appendix 3)
⊙ **Light source**	LED module, PT39, Luminus
⊙ **Optical system**	RTIR System
⊙ **Brightness** *Bright mode (Default)	90 lumen (typical) , 80 lumens(min)
⊙ **Contrast Ratio(JBMIA)**	800:1(typical),600:1 (minimum)
⊙ **Optical Compensation**	Lens Array
⊙ **Light Uniformity(JBMIA)**	80%(typical), 75%(minimum)
⊙ **Color uniformity(White)**	White ldxyl<=0.02
⊙ **Throw ratio**	1.97(@4:3)
⊙ **Focus range**	0.6 ~ 2.4 Meter (see Projection Diagram)
⊙ **Screen size**	15 ~ 60 inches (see Projection Diagram)

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⊙ **Sound Noise**	@ 25% overlapping 25 degree C: 32dBA; (typical) @ 50% overlapping 25 degree C: 35dBA (typical)
⊙ **Color system**	24 bits
⊙ **PC Compatibility** *Horizontal frequency *Vertical frequency *Pixel Rate	 15 ~ 100 KHz 43 ~ 85 Hz 13 ~ 170MHz
⊙ **Digital Keystone Correction**	Vertical: +/- 20 degree
⊙ **Other Key Feature**	3:2 Pull Down Progressive Scan Auto Source Detection ARC (aspect ratio correction) 1:1/4:3/16:9 Auto Tracking/Sync. Metal –Plastic Body
⊙ **Analog RGB Input**	Analog: 0.7 Vp-p / 75Ω Color Level: 0.7 Vp-p / 75Ω Separate: TTL Voltage Level 1.8 Vrms / 10 KΩ
⊙ **Video Input**	NTSC-M, 4.43 PAL-M, N, B, D, G, H, I SECAM
⊙ **I/O Connectors**	15 pins D-type Female connector x1 Composite input x1
⊙ **OSD Language**	Chinese(Tradition), Chinese(Simply), English, French, German, Spanish, Italian, Portuguese, Nederland, Japanese, Korean, Red means non-standard,
⊙ **Storage Temperature**	-20 ~ 60°C
⊙ **Operation Temperature**	5 ~ 35°C
⊙ **Operation Humidity**	35 ~ 85%
⊙ **Power Requirement**	100 ~ 240 V, 50 ~ 60 Hz
⊙ **Power Consumption**	, < 90 W Standby mode: < 1W ; Green power
⊙ **Dimension & Weight**	
*W x D x H	50mm(H) x 125mm(W) x 120mm(D)
*Weight	550g
⊙ **Accessory**	TBD
⊙ **Regulatory**	<North America> **UL** 80950-1 1st Edition: 2003, **FCC** 47 CFR Part 15 Subpart C Class-B ANSI C63.4:2003 Industry Canada ICES-003 4th Edition Class B <Europe> **CE** EN55022: 1998+A1: 2000+A2: 2003 Class-B, EN60950-1:2001/ IEC 60950-1:2001 (+National deviations) EN61000-3-2 edition 2: 2000 EN61000-3-3: 1995+A1: 2001

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	EN55024: 1998+A1: 2001+A2: 2003 - IEC 61000-4-2:1995+A1:1998+A2:2001 - IEC 61000-4-3:2002+A1:2002 - IEC 61000-4-4:1995+A1:2001+A2:2001 - IEC 61000-4-5:1995+A1:2001 - IEC 61000-4-8:2004 - IEC 61000-4-8:1993+A1:2001 - IEC 61000-4-11:1994+A1:2001 <China> **CCC** GB4943-2001, GB9254-1998 Class-B, GB17825.1-2003 <Others> **PSE,** **EK** <Environment-related> Lead-free soldering (including PCB mark ing), RoHS, WEEE, Vermont's Labeling Law for lamp containing Mercury

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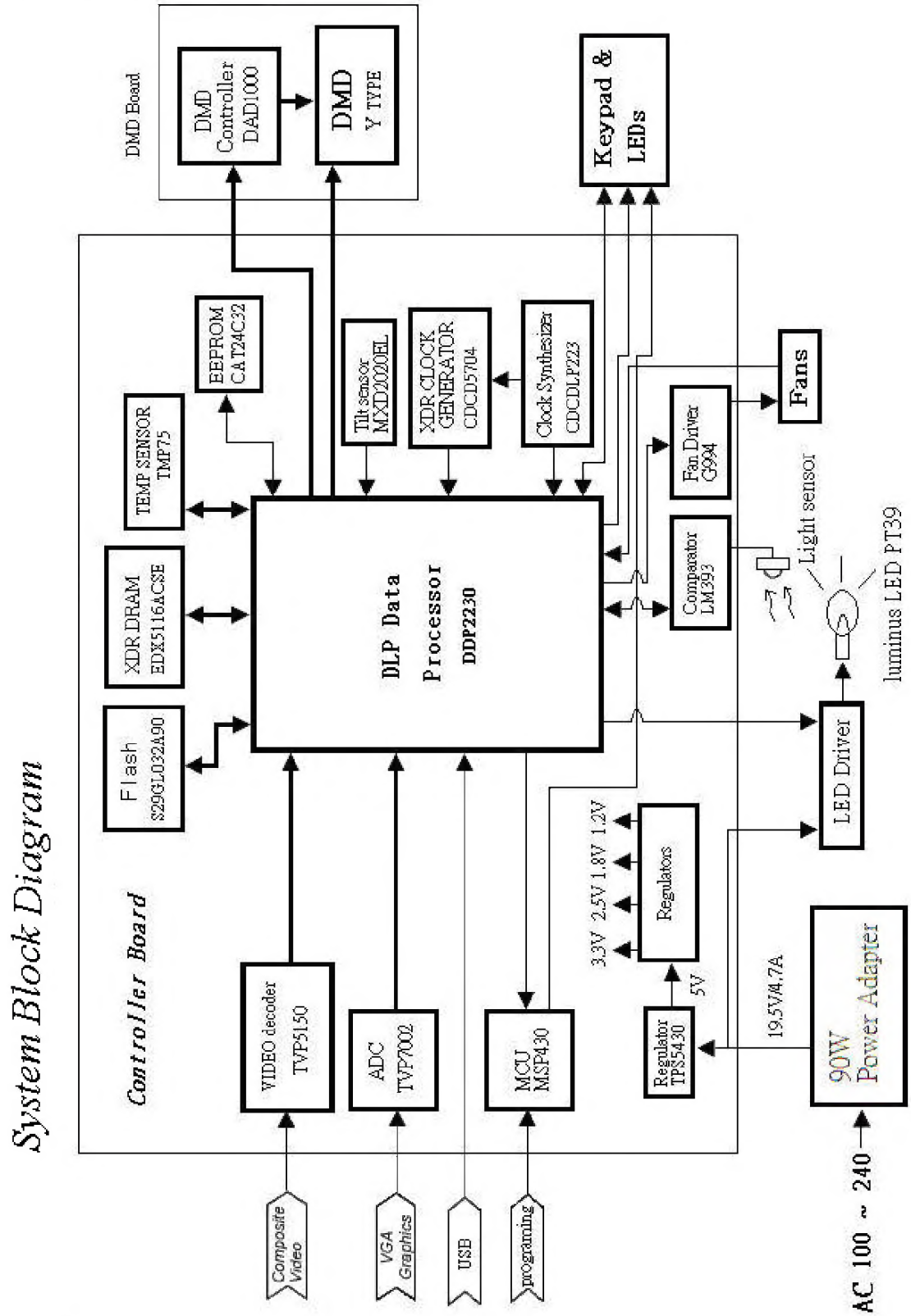
1.2 System Block Diagram



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2 Firmware Upgraded Flow

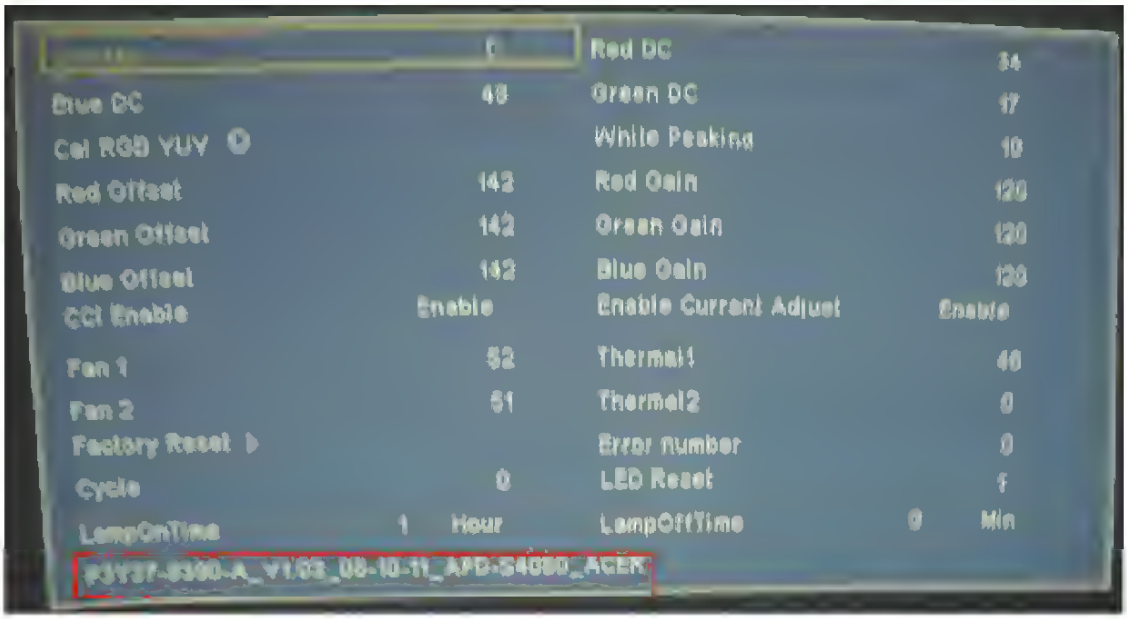
This chapter provides the information regarding relevant equipments and upgrading procedure for firmware upgrade.

Note:

Please check the firmware and composer version before any firmware upgrade procedures. During firmware download period, please do not shut down PC or projector, this will cause flash memory's damage. And need to return the unit to manufacturer for flash memory recovery.

2.1 Check FW version

How to check the firmware version? Please press the button of Power, press "-" twice, at last press Menu. You will access the engineering mode and read the firmware version as below.(This firmware version is just for reference.)



2.2 Setup Tool/Equipment

1. Computer
2. USB Burning Cable (See the picture)
3. Power Cord and AC Adaptor

2.3 Upgrading Procedure

Installing [DLP Composer (TM) Lite]

1. Double-click **[DLP Composer Lite v7.1 Setup.exe].**

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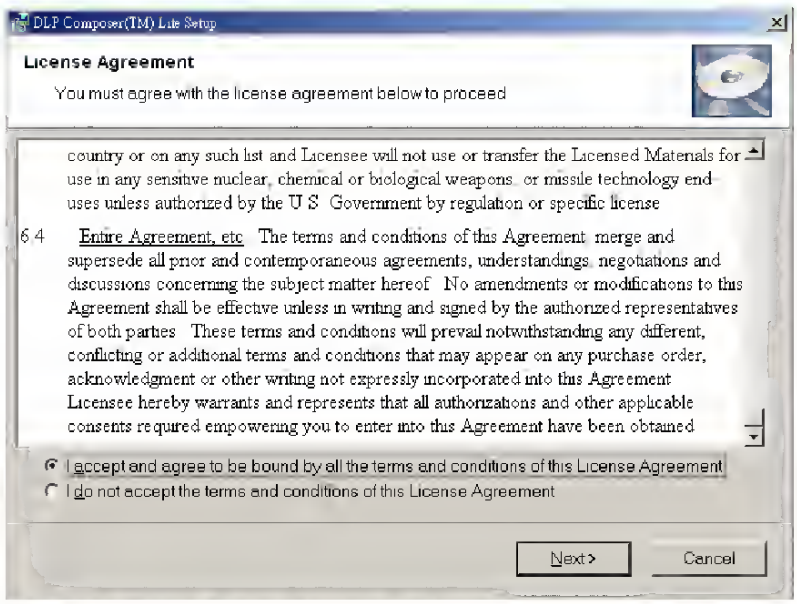
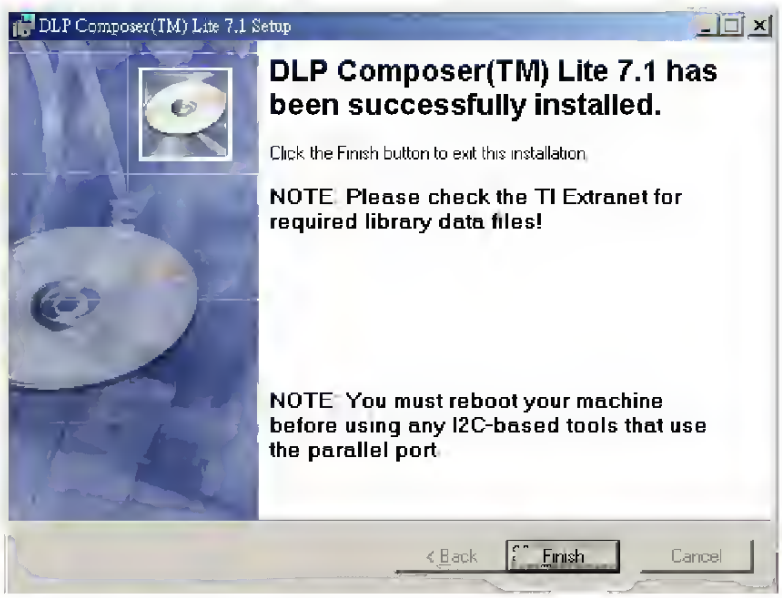
2. Installation starts. Click **[Next]** to continue the installation process.

3. On the **[License Agreement]** screen, move the scroll bar on the right to the bottom, select **[I accept and agree to be bound by all the terms and conditions of this License Agreement]**, and click Next to continue the installation process.


DLP Composer(TM) Lite Setup
License Agreement
You must agree with the license agreement below to proceed
country or on any such list and Licensee will not use or transfer the Licensed Materials for use in any sensitive nuclear, chemical or biological weapons or missile technology end-uses unless authorized by the U S Government by regulation or specific license
6 4 Entire Agreement, etc The terms and conditions of this Agreement merge and supersede all prior and contemporaneous agreements, understandings, negotiations and discussions concerning the subject matter hereof No amendments or modifications to this Agreement shall be effective unless in writing and signed by the authorized representatives of both parties These terms and conditions will prevail notwithstanding any different, conflicting or additional terms and conditions that may appear on any purchase order, acknowledgment or other writing not expressly incorporated into this Agreement Licensee hereby warrants and represents that all authorizations and other applicable consents required empowering you to enter into this Agreement have been obtained
I accept and agree to be bound by all the terms and conditions of this License Agreement
I do not accept the terms and conditions of this License Agreement
Next >
Cancel

4. On the Select **[Installation Type]** screen, select **[ALL]** and click **[Next]** to continue the installation process.

5. When the installation is finished, click [Finish] and reboot the PC. (A shortcut to DLP Composer(TM) Lite is created on the desktop.)


DLP Composer(TM) Lite 7.1 Setup
DLP Composer(TM) Lite 7.1 has been successfully installed.
Click the Finish button to exit this installation
NOTE: Please check the TI Extranet for required library data files!
NOTE: You must reboot your machine before using any I2C-based tools that use the parallel port
< Back
Finish
Cancel

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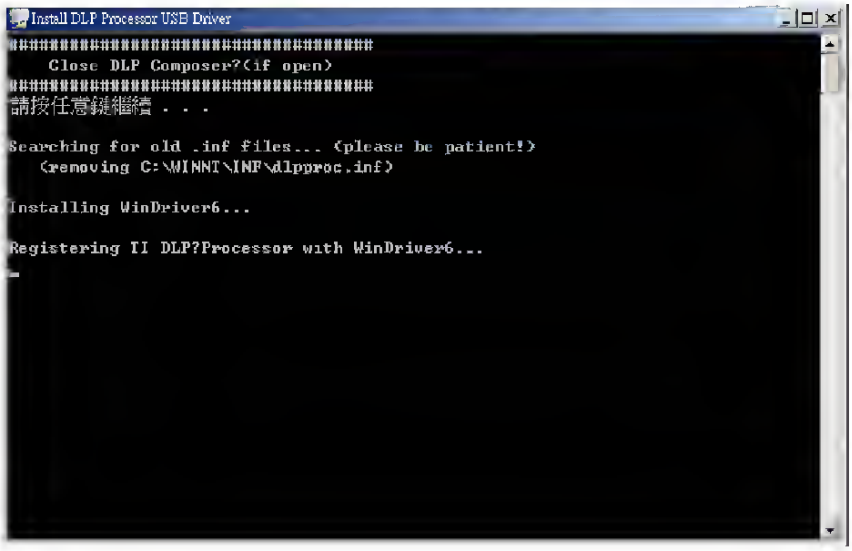
USB Support - Installation (All Platforms)

This release includes support for a USB communications interface to DDP2000-based projectors. The setup program includes the files needed to install USB support (for Windows 98/Me/2000/XP only --- Win95 and WinNT are not supported). After DLP Composer™ Lite is installed, to install the USB support, choose the "Install DDP2000 USB Driver" icon under "DLP Composer™ Lite" in your Start menu.

Follow the instruction on the screen to press any key and wait for the installation done.


Install DLP Processor USB Driver
Close DLP Composer?(if open)
請按任意鍵繼續 . . .
Searching for old .inf files... (please be patient!)
(removing C:\WINNT\INF\dlpproc.inf)
Installing WinDriver6...
Registering II DLP?Processor with WinDriver6...

And copy the file "FlashDeviceParameters.txt" into the C:\ Program Files\ DLP Composer Lite X.X

Operating procedure

1. Connect the Projector and PC via USB cable.
2. Double-click **[DLP Composer (TM) Lite].** The following screen will appear.

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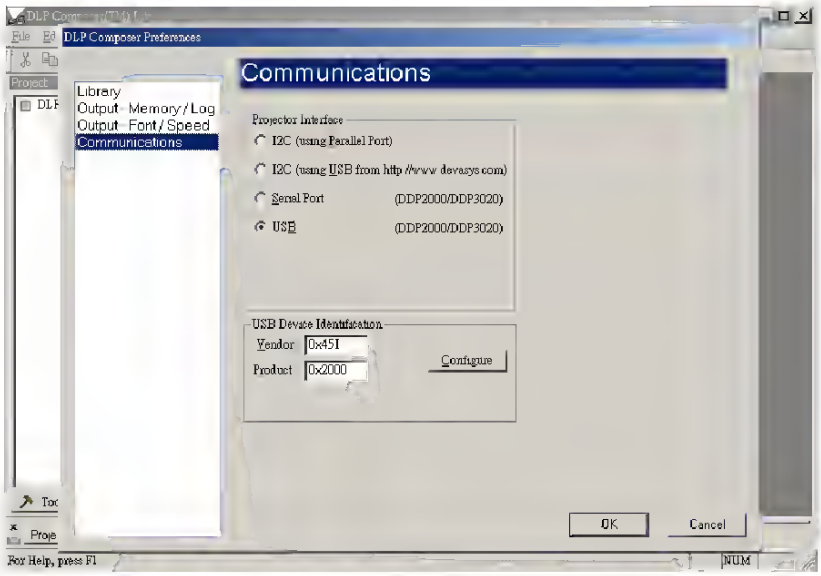
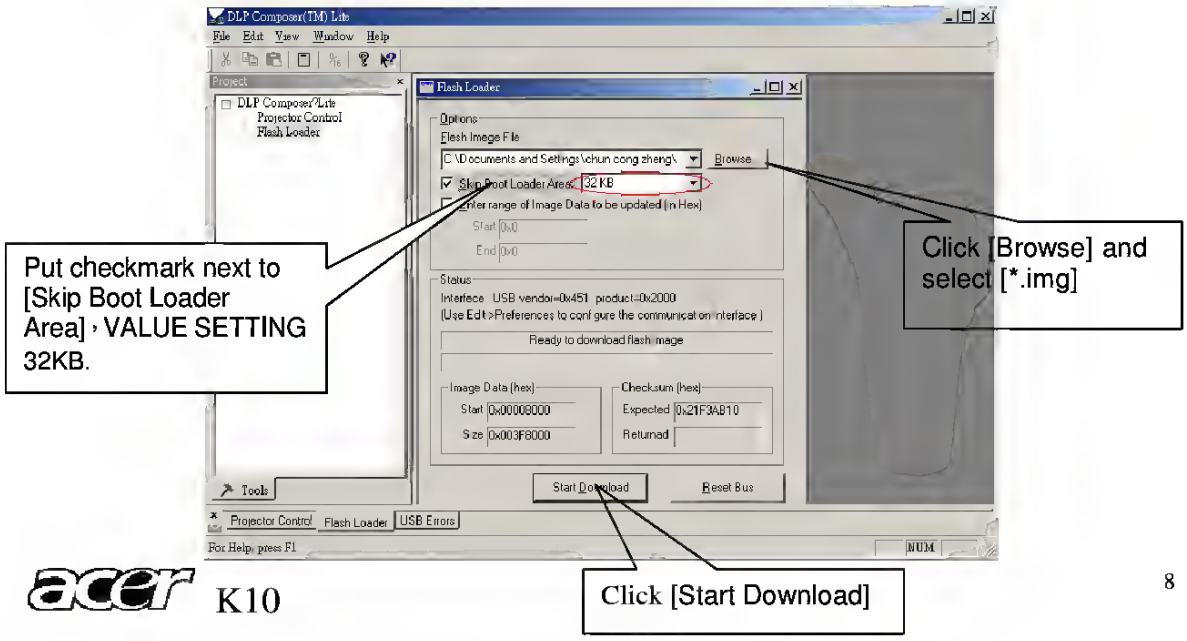
3. Select **[Edit]/[Preferences]/[Communications]** to check **USB** in **[Projector Interface]**.



4. Click **[USB Device Identification].**
5. Set the items on the **[Vendor 0x451, Product 0x2000].**
6. Click **[OK].**
7. Move the cursor to **[Flash Loader]** on the Project window of **[DLP Composer Lite]**. (The **[Flash Loader]** screen will appear.)
8. Click **[Browse]** and select where the firmware **[xxxxxxxxx.img]** is for download.
9. Make sure **[Skip Boot Loader Area]** is with a check.
10. Press Menu and Power buttons cons tantly within ten seconds after insert the USB Burning Cable and power Cord. Power LED will start flashing. That indicates the projector is in the download mode. At this moment, you can release these two buttons.
11. Click **[Start Download]**. When the dialog box is displayed, click **[Yes]**.



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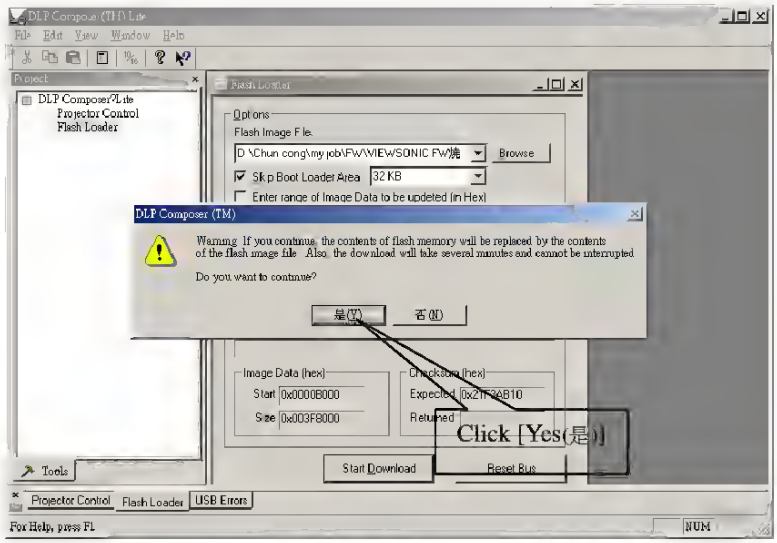

12. Wait for the Completion of Burning and then remove Power Cord and Burning Cable.

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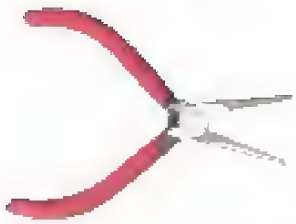
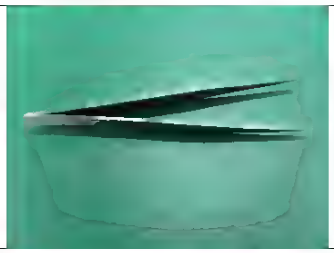
3 Machine Disassembly and Replacement

3.1 Tools

Item	Photo
Long Nose Nipper	
Nipper	
Screw Bit(+):2*5*40 Screw Bit(+):2*4*60	
Anti-static wrist strap	
Anti-static wrist gloves	

3.2 Disassembly Procedure

Warning

- Put on the Static Electricity Ring when starting for repair.
- Repair Environment suggest in Clean-room class 10000. Do not remove Optical Engine or DMD panel outside the clean room.
- While screwing or unscrewing screws, please keep the screwdriver straight. Keeping screwdriver inclined will damage the screw holes.
- Please turn off the power before replacing any parts.

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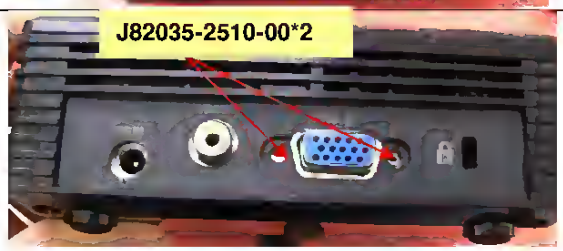
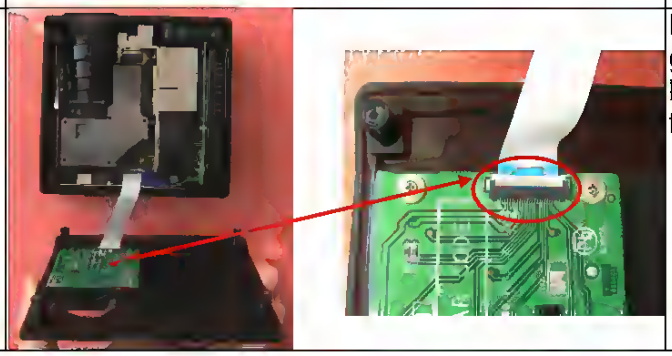
Step	Figure	Description
1		1. Press the power button to shutdown the projector and disconnect the power cord. 2. Flip the projector and remove the lens cover.
2	 1. 2.	1. Loosen screws J82035-2510-00*2 as shown. 2. Loosen the screws J1635-3673-00*4.
3		Raise the top cover gently and disconnect the keypad FFC between the top cover and mainboard.

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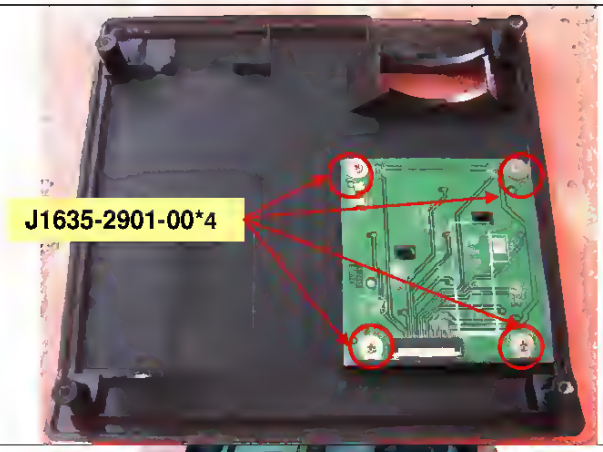
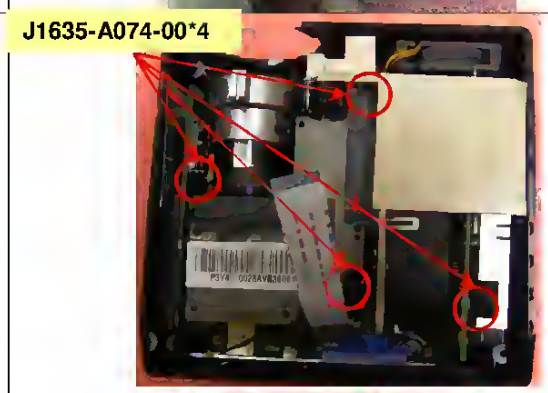
4		Loosen the four screws J1635-2901-00*4 to remove the keypad .
5		Remove the Lens Cover and Lens Ring gently.
6		Loosen the four screws J1635-A074-00*4 for moving Bottom Cover.
7		1. Unplug the LED Drive Board from Main Board. 2. Remove all LED Wires.

P.1

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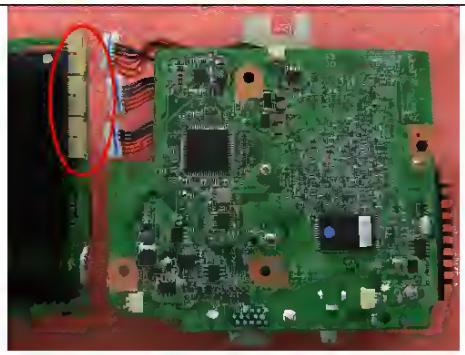
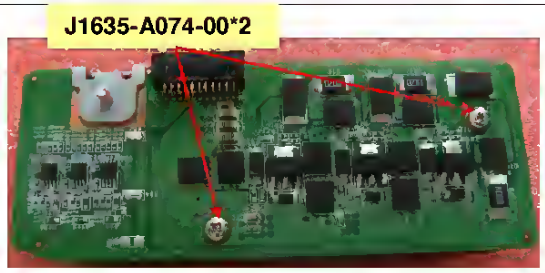
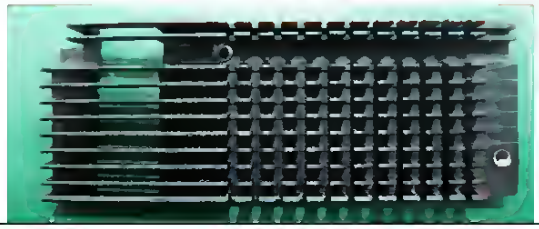
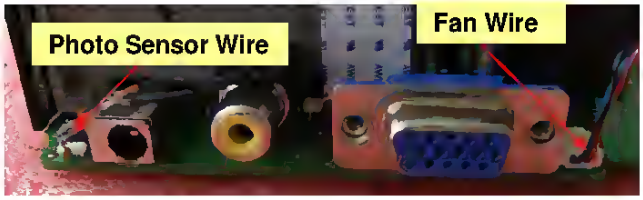
	 P.2	
8	 	Loosen the two screws J1635-A074-00*2 on LED Drive Board to remove the Drive Board Heat sink.
9	 	1. Unplug Photo Sensor Wire and Fan Wire from the Main Board. 2. Loosen the three screws J1635-A074-00*3. 3. Remove Main Board.

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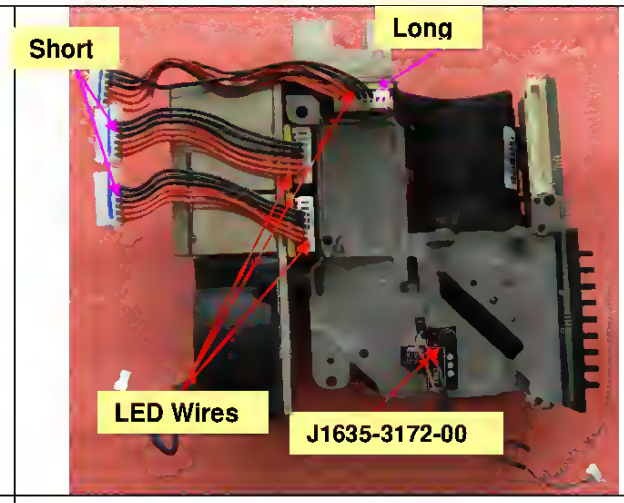
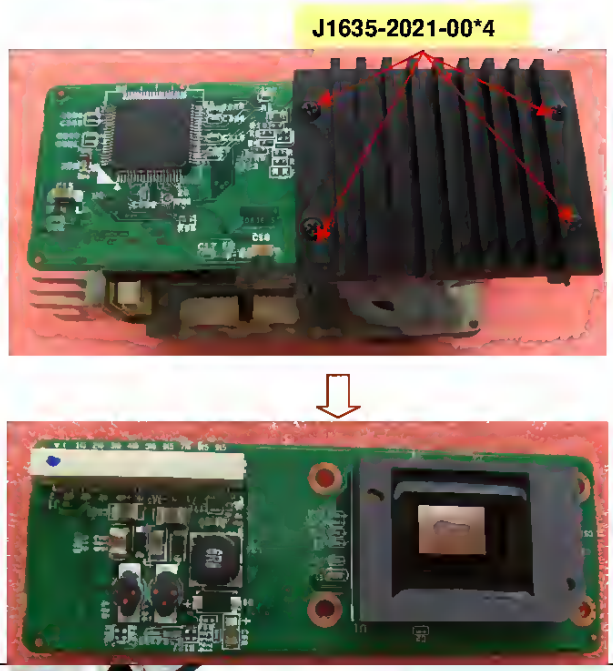
10		1. Loosen the screw J1635-3172-00 to remove the Photo Sensor Board. 2. Unplug the three LED Wires.
11		Loosen screws J1635-2021-00*4 for raising the DMD Board and DMD Heat sink.
12		Loosen the two screws J1635-2290-00*2 to remove the Focus-ring.

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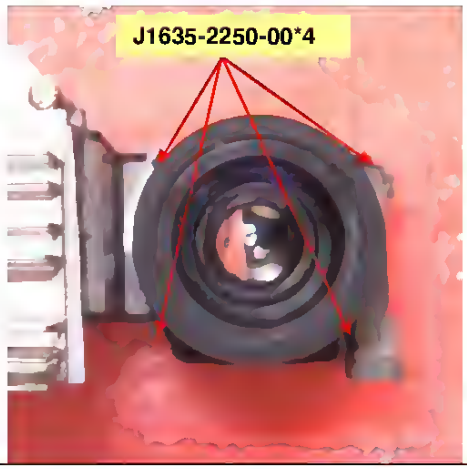
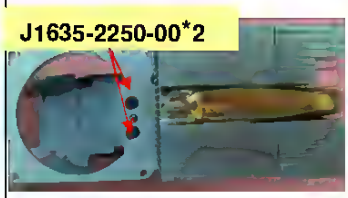
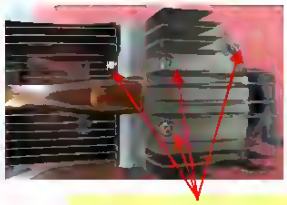
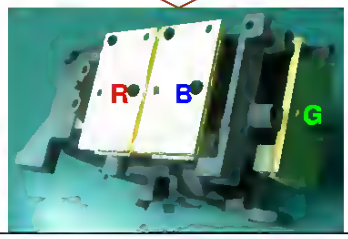
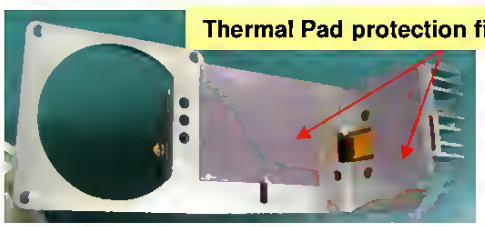
13		Loosen the four screws J1635-2250-00*4 to remove the Lens.
14		Loosen the three screws J1635-2021-00*3 to remove the DC Fan.
15	  	Loosen the screws J1635-2021-00*4 and J1635-2250-00*2 to remove the heat sink.
Note		Note: When assembling the heat sink, please take the LED Thermal Pad protection film off firstly.

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3.3 Mechanical Drawing

1. Top Cover

2. Lens Ring

3. Lens Cover

8. LED Drive Board

4. DMD Heatsink

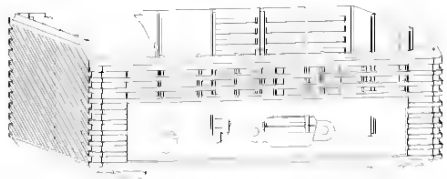
6. Optical Engine

5. DMD Board

7. LED Heatsink

9. Drive_Board Heatsink

10. Main Board



11. Bottom Cover

12. Foot Screw

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4 Troubleshooting and Verifying the Repair

This chapter provides technicians and people who have an electronic background a primary description about maintaining the product. Moreover, you can get the appropriate operation to solve some complicated problems of component repairing and professional problems.

4.1 Troubleshooting

Warning:

Do not directly look into the lens to avoid eyesight damages.

The projector is equipped with ventilation holes (intake) and ventilation holes (exhaust). Do not block or place anything near these slots. Or internal heat build-up may cause picture degradation or damaging the projector.

Confirm Software and hardware

(1) Confirm FW version (refer to Engineering Mode).

(2) Confirm LED indicator.

Message	Lamp LED	Temp LED	Power LED	
	Red	Red	Red	Blue
Standby (AC adapter and power cord plugged in)	–	–	V	–
Turning on	–	–	–	V
Turning off (cooling state)	–	–	Quick flashing	–
Turning off (cooling completed)	–	–	V	–
Firmware download	V	V	V	–
Error (thermal switch or thermal sensor failure)	–	V	–	V
Error (fan lock failure)	–	Quick flashing	–	V

(3) Confirm cable connection well.

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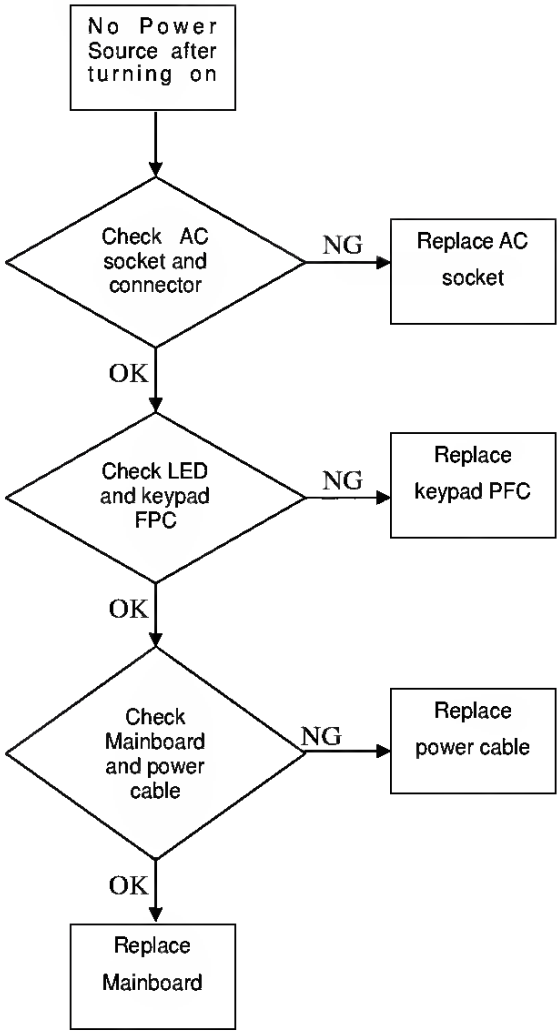
Power Source Troubleshooting



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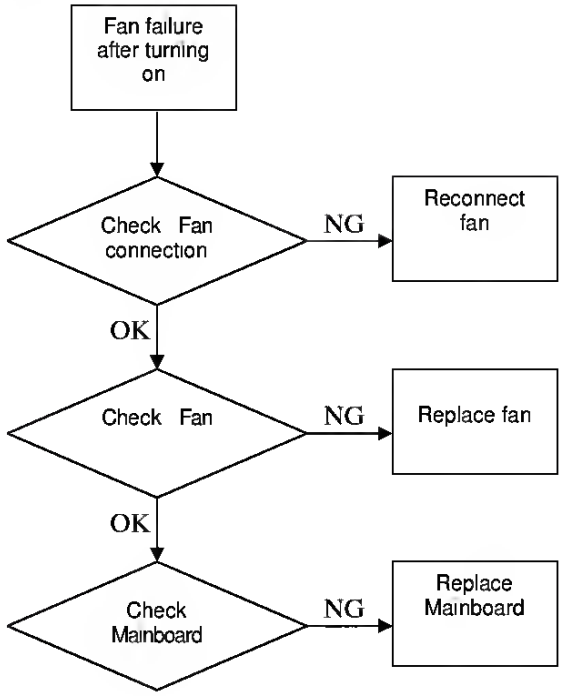
Fan Failure Troubleshooting



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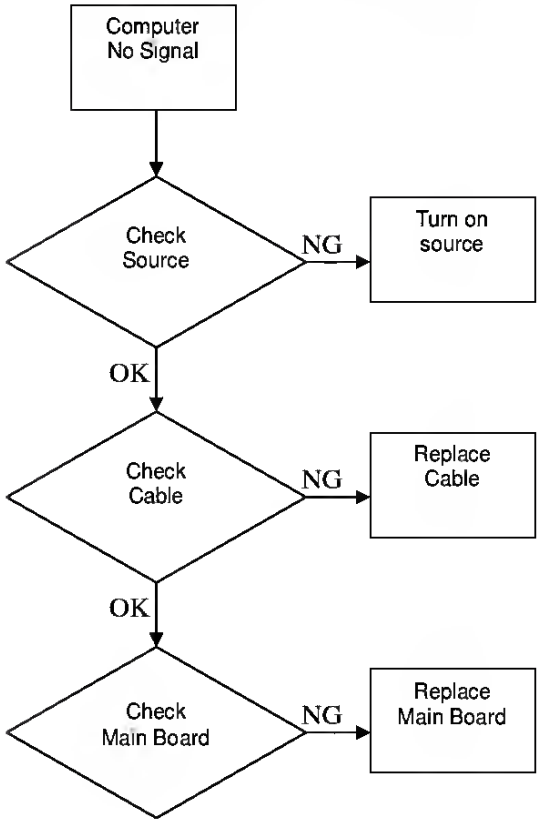
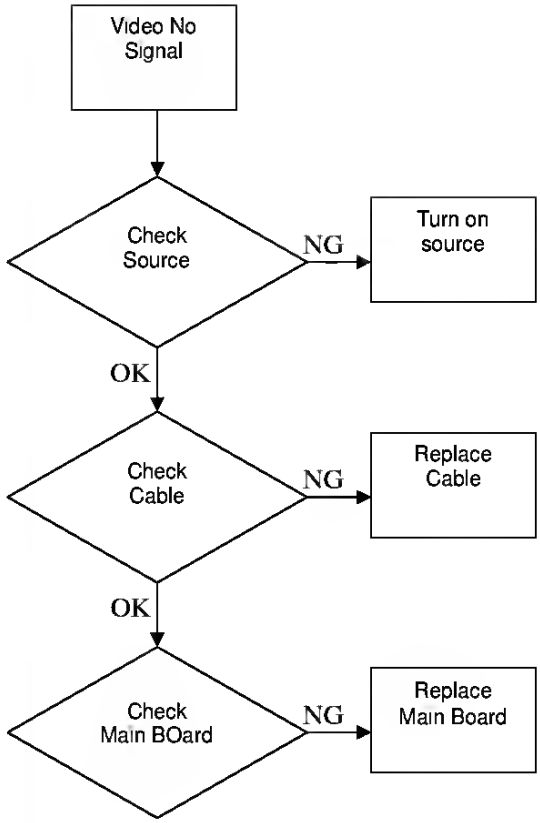
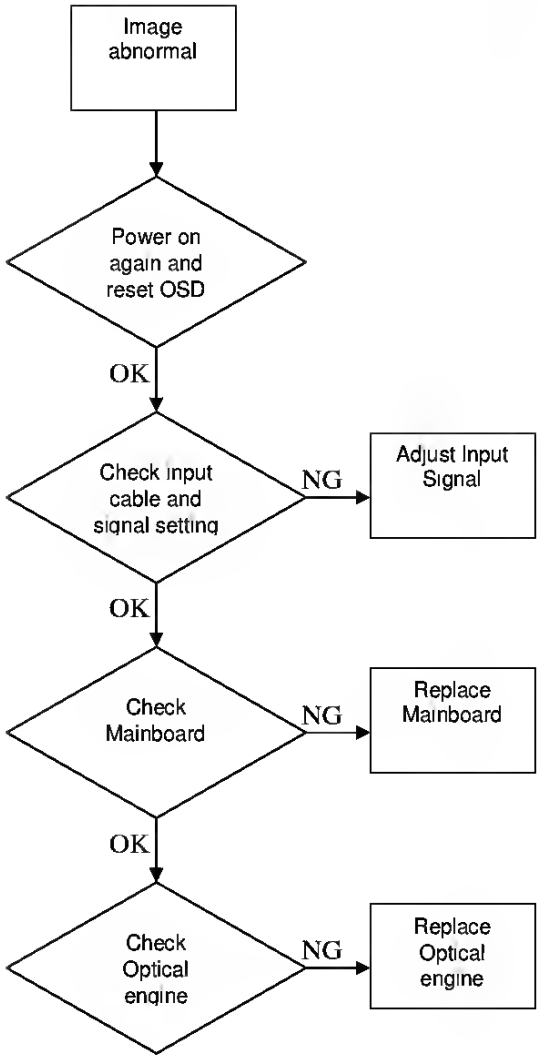
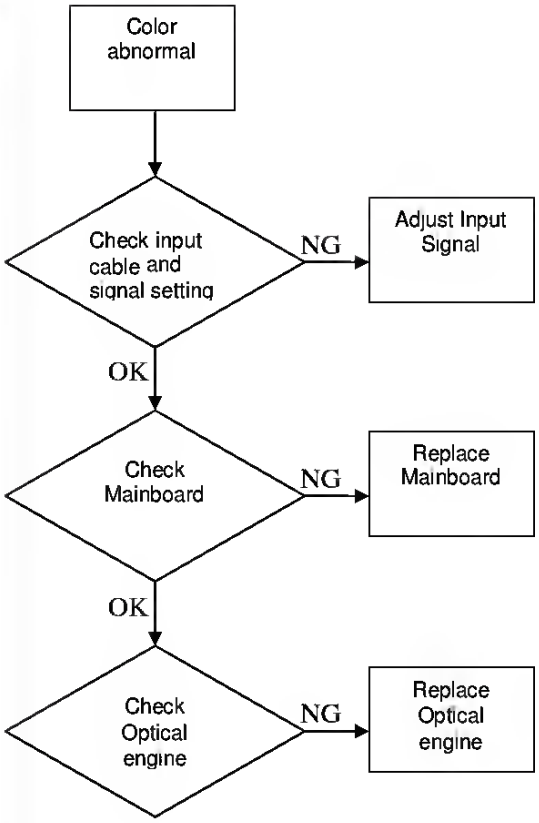
Video Signal and VGA Signal Troubleshooting





Downloaded from www.Manualslib.com manuals search engine





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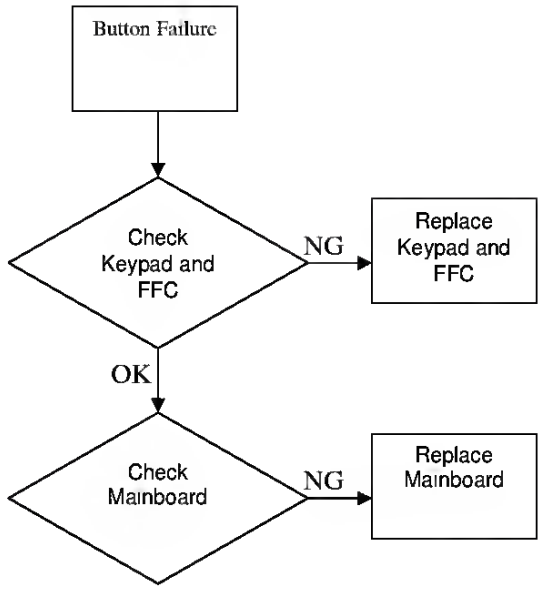
Operation Function Troubleshooting



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4.2 Verifying the Repair

After repairing projector (Dissembling and assembling projector), Repair center should verify the quality of repaired unit. Here is a general guide for all repaired model. That means if the projector is without S-Video port, repair center can skip the portion of S-Video verification.

(1) Signal test (Each I/O can function normally)

Connect all connector to the jacks one after the other to check whether each channel can project normally.

I/O port	**Monitor In (VGA)**
Test Equipment	Standard Pattern generator (Ex. Quantum data)
Signal format	800*600 60Hz

I/O port	**Video**
Test Equipment	Standard Pattern generator (Ex. Quantum da ta) or DVD player
Signal format	NTSC

I/O port	**S-Video**
Test Equipment	Standard Pattern generator or DVD player
Signal format	480i
I/O port	**Audio input**
Test Equipment	Connect audio input to audio output of DVD player
Signal format	480i

(2) Operation test

Buttons operation

Button description	Test criteria
Power button	1. Mechanical motion (Up & Down) should be free from getting stuck when pressing the Power button. 2. Press "power" button and projector will switch on.
Menu	1. Mechanical motion (Up & Down) should be free from getting stuck when pressing the Menu button. 2. Press Menu button can make projector function normally.
4-way button (Keystone/Auto/Source)	1. Mechanical motion (Up & Down) should be free from getting stuck when pressing the 4-way button. 2. Press 4-way button can make projector function normally.

Focus ring

Ring	Test criteria
Focus ring	The feeling of rotating Focus ring to the end of right and left by hand should free from seizing.

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(3) Image Quality

Projected image size: 25 inches (diagonal length).

Zoom ring: Adjust zoom ring to wide (Maximum projection size).

VGA

I/O port	Monitor In (VGA)
Test Equipment	Standard Pattern generator (Ex. Quantum da ta)
Signal format	800*600 60Hz
Projected image size	25" in diagonal length

Test Pattern	Test criteria
	ANSI Brightness Apparent color strip, bend and streak corner on the projected image are not allowable.
	Extreme Gray-Scale --0 represents full black, 255 represents full white. --Distinguishing the gray from black at the value of 32 and the gray from white at the value of 239 easily are acceptable.

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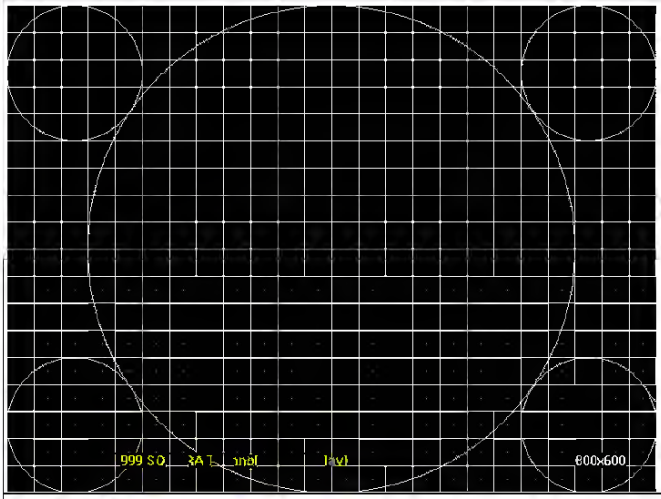
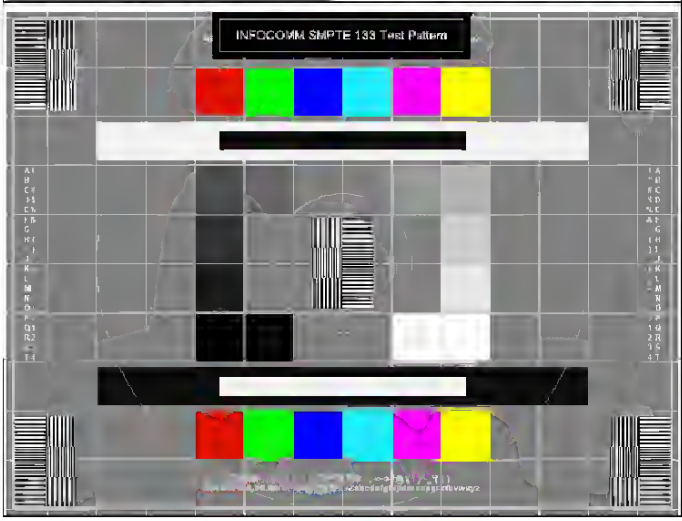


Circular Geometry, Cross hatch and Dots

1. The four lines of outer frame should not only be existent but also distinguishable.
2. The dots in the square should be distinguishable.

Scaled Text

1. Rotate Zoom ring to wide mode (Maximum projected image)
2. Fix projector to set diagonal length of projected image to 60".
3. Adjust focus ring to make resolution of 4 corners and center are balanced.
4. Check the characters should be recognized easily.
5. Rotate Zoom ring to tele mode (Minimum projected image)
6. Adjust focus ring to make resolution of 4 corners and center are balanced.
7. Check the characters should be recognized easily.



INFOCOMM SMPTE 133

1. The intervals of center thin white and black bars should be distinct.
2. The squares around the small circle in the center show the transition of full white to full black.

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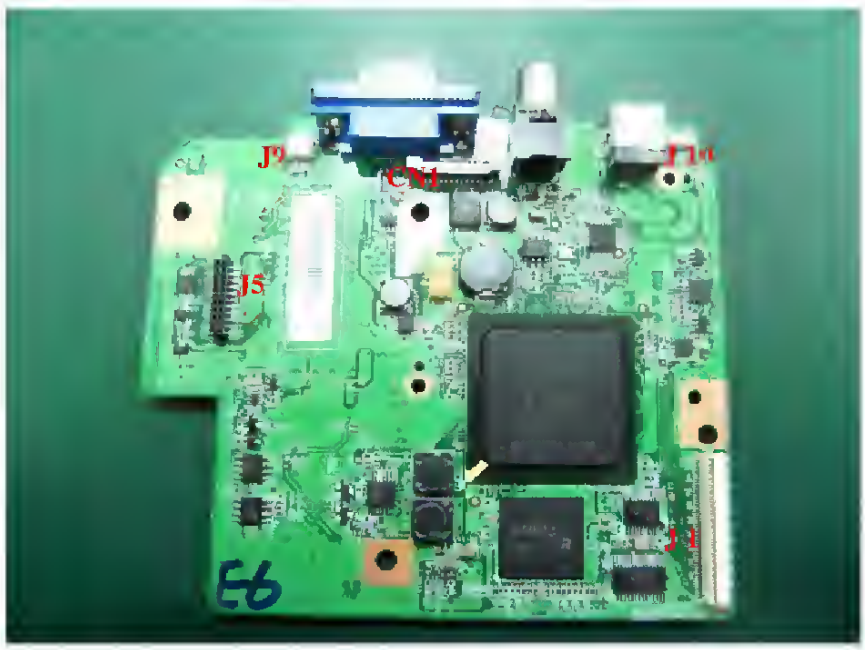
Video

I/O port	Video
Test Equipment	Standard Pattern generator (Ex. Quantum data)&DVD player
Criteria	No apparent color deviation on the projected image

5 Connector Information

This section provides each connector location on boards and function of each board. They will be useful for your detecting the defective boards.

5.1 Main Board



Connector	Description
CN1	FFC Cable (to keypad)
J1	DMD Board
J5	LED Drive Board
J9	Fan
J10	Photo sensor

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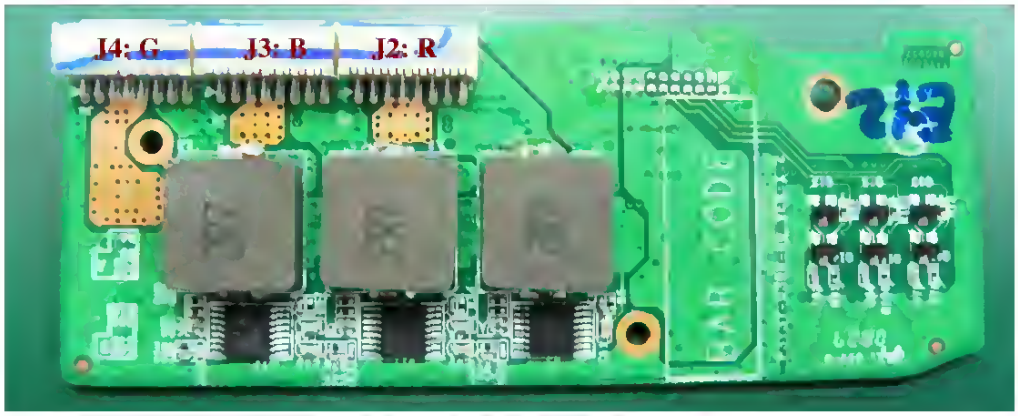
5.2 LED Drive Board



Connector	Description
J2	LED-R
J3	LED-B
J4	LED-G

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Appendix A: Measurement method and Formula

Equipment : Chroma 7600 Video Pattern Generator values

Set projection diagram to wide size, 25" inches diagonal image

1. Bightness measurement

Measure the incident light at the ANSI nine points of the screen with the illuminometer placed in the plane of the focused image on normal white condition. Calculation is according to ANSI standard (for 60" diagonal projection area case)

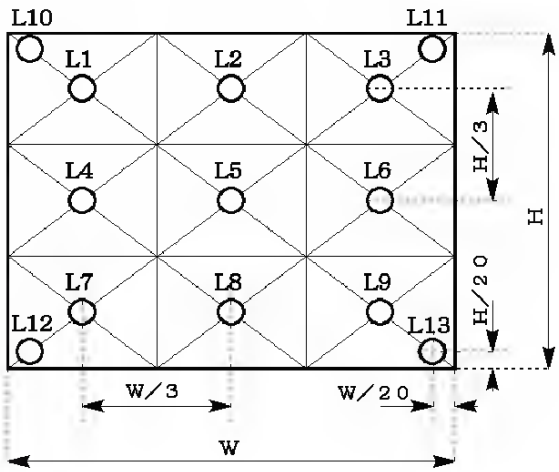
Test Pattern: Full White Test Pattern

Formula : Average(L1+L2+...+L9) ×(Projection Area)

= (L1+L2+...+L9)/9 ×0.508m x 0.381m

L1, L2, ..., L9 : the lx reading of ANSI 9 points

ANSI Test point definition



2. Light uniformity measurement(JBMA)

Test Pattern: Full White Test Pattern

Formula :

JBMA uniformity = Average (L1,L3,L7,L9)/L5

L1,L2,...,L9 : the lx reading of 9 ANSI points

3. Light Uniformity(Dark Corner)

Test Pattern: Full White Test Pattern

Formula:

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$$Light\ Uniformity(Dark\_corner) = \left[(\text{Min}(L10, L11)/\text{Average}(L1, L2, L3, L4, L5, L6, L7, L8, L9))\right] \times 100\%$$

L1, L2,...,L9, L10, L11: the lx reading of 13 ANSI points

4. Contrast measurement(JBMA)

First measure the light output of nature white pattern of ANSI nine points. Second, measure the dark pattern as the same way. And calculate the ratio of them.

Test Pattern: Full White and Full Dark Test Pattern

Formula:

Average(L1,L2,L3,L4,L5,L6,L7,L8,L9) of NW : Average(L1,L2,L3,L4,L5,L6,L7,L8,L9) of Dark

= NW(L1+L2+L3+L4+L5+L6+L7+L8+L9)/9 : Dark(L1+L2+L3+L4+L5+L6+L7+L8+L9)/9

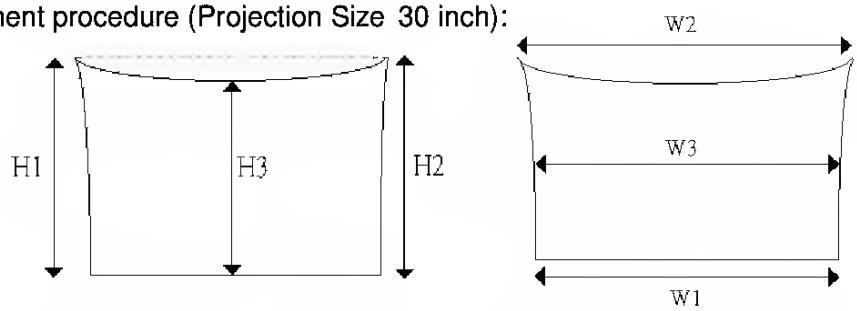
5. TV DISTORTION

Unit: %

Brightness: Default

Contrast: Default

Measurement procedure (Projection Size 30 inch):



Measure the dimensions H1, H2 and H3, with H3 at the half image width, as shown above for both zoom settings. For each the distortion is defined as:

VERTICAL

$$TV-dist = \left(\frac{H1}{H3} - 1\right) * 100\% \qquad TV-dist = \left(\frac{H2}{H3} - 1\right) * 100\%$$

Measure the dimensions W1, W2 and W 3 at the half image height, as shown above. The distortion is defined as:

HORIZONTAL

$$TV-dist = \left(\frac{W1}{W3} - 1\right) * 100\% \qquad TV-dist = \left(\frac{W2}{W3} - 1\right) * 100\%$$

All should be within the absolute specification tolerance.

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Appendix B: Computer Compatibility

Mode	Resolution	Vertical Frequency (Hz)	Horizontal Frequency (kHz)
VGA	640 x 480	59.940 Hz	31.469 kHz
		72.809 Hz	37.861 kHz
		75.000 Hz	37.500 kHz
		85.008 Hz	43.269 kHz
SVGA	800 x 600	56.250 Hz	35.156 kHz
		60.317 Hz	37.879 kHz
		72.188 Hz	48.077 kHz
		75.000 Hz	46.875 kHz
		85.061 Hz	53.674 kHz
XGA	1024 x 768	60.004 Hz	48.363 kHz
		70.069 Hz	56.476 kHz
		75.029 Hz	60.023 kHz
		84.997 Hz	68.677 kHz
SXGA	1152 x 864		
		75.000 Hz	67.500 kHz
	1280 x 960	60.000 Hz	60.000 kHz
	1280 x 1024	60.020 Hz	63.981 kHz
	1280 x 800	84.88 Hz	71.55 kHz
		74.88 Hz	62.75 kHz
		59.8 Hz	49.7 kHz

Appendix C: Video Compatibility

NTSC-M, NTSC-4.43

- PAL-M,N,B,D,G,H,I
- SECAM

Signal	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
480i	15.8 kHz	60 Hz
480p	31.5 kHz	60 Hz
576i	15.6 kHz	50 Hz
576p	31.3 kHz	50 Hz
720p	45.0 kHz	60 Hz
720p	37.5 kHz	50 Hz
1080i	33.8 kHz	60 Hz
1080i	28.1 kHz	50 Hz

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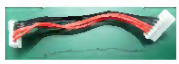
Appendix D: Spare Parts list

Introduction

This section is a list of all the FRU removal. Following the FRU table of contents is an enlarged view of the entire projector, which shows the primary FRUs in the projector.

When working on the projector, use appropriate anti-static precautions such as anti-static mats, wrist straps and grounded work surfaces.

Failure to do this can destroy static-sensitive components and make the product inoperable.

CATEGORY	DESCRIPTION	FOXCONN PART NO.	Remark
8OARD	KEYPAD_DIP_PC8_ASY_APD-S4080_ROHS(without metal dome)	P3Y47-7100	
8OARD	PHOTO SENSOR_DIP_PC8_ASY_DPD-S290_ROHS	P3K47-5100	
8OARD	MAIN_DIP_PC8_ASY_SPARE PARTS_APD-S4080_ROHS	P3Y84-7100	
8OARD	DRIVE_DIP_PC8_ASY_SPARE PARTS_APD-S4080_ROHS	P3Y84-7400	
8OARD	DMD8OARD_DIP_PC8_ASY_SPARE PARTS_APD-S4080_ROHS	P3Y84-7500	
CA8LE	VGA-VGA+US8 CA8LE_P4883-08_PAN_ROHS	J2552-0227-00	
CA8LE	WIRE CON-CON_PR-P00088_YUAN YUH_4PIN_L72MM_10064#34_ROHS	J2595-0335-00	
CA8LE	WIRE CON-CON_PR-W0005D_YUAN YUH_6PIN_L45MM_1061#24_ROHS	J2595-0334-00	
CA8LE	WIRE CON-CON_PR-W0001D_YUAN YUH_6PIN_L62MM_1061#24_ROHS	J2595-0333-00	
CA8LE	FFC CA8LE_A24100C3344 N8_ENTERY_0.5PITCH_24PIN_L100MM_ROHS	J2591-0110-00	
CASE/COVER/8RACKET ASSEM8LY	TOP COVER SPARE PART_APD-S4080_ROHS	P3Y84-4500	
CASE/COVER/8RACKET ASSEM8LY	8OTTOM-COVER SPARE PART_APD-S4080_ROHS	P3Y84-4510	

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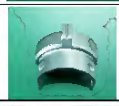
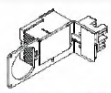
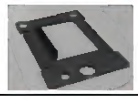
CASE/COVER/BRACKET ASSEMBLY	LOGO PLATE_APD-S40B0_ROHS	P3Y3B-1500-00	
CASE/COVER/BRACKET ASSEMBLY	I/O NAME PLATE_APD-S40B0_ROHS	P3Y3B-1530-00	
CASE/COVER/BRACKET ASSEMBLY	LENS-COVER_APD-S40B0_00_NO PAINTING_ROHS	P3Y34-4610-00	
CASE/COVER/BRACKET ASSEMBLY	LENS RING_APD-S40B0_00_FOR PAINTING_ROHS	P3Y34-4550-99	
CASE/COVER/BRACKET ASSEMBLY	FOCUS RING_APD-S40B0_00_FOR PAINTING_ROHS	P3Y34-4520-99	
CASE/COVER/BRACKET ASSEMBLY	DMD HEATSINK_APD-S40B0_00_NO PAINTING_ROHS	P3Y35-6010-00	
CASE/COVER/BRACKET ASSEMBLY	DRIVER_BOARD HEATSINK_APD-S40B0_00_NO PAINTING_ROHS	P3Y35-6011-00	
CASE/COVER/BRACKET ASSEMBLY	LED COOLER MODULE_APD-S40B0_DEFAULT_NO PAINTING_ROHS	P3Y35-0550-00	
DIGITAL LIGHT DEVICE	OPTICAL ENGINE ASY(WITH DMD BOARD)SPARE PARTS_APD-S40B0_ROHS	P3YB4-2200	
DIGITAL LIGHT DEVICE	DMD-0.45INCH-SVGA Y-TYPE_DPD-S290_ROHS	P3K36-7010-00	
FAN	DC FAN_AFB0412HHA-A(R00)(L=70MM)_DELTA_ROHS	J2394-0114-00	
FAN	DC FAN_BUB0412VHD-BJ12(R00)(L=35MM)_DELTA_ROHS	J2394-0115-00	
MISCELLANEOUS	IO-HOLDER_APD-S40B0_00_NO PAINTING_ROHS	P0N35-0590-00	
MISCELLANEOUS	ESD MYLAR_APD-S40B0_ROHS	P3Y3B-1570-00	
MISCELLANEOUS	LED PAD_APD-S40B0_ROHS	P3Y3B-11B0-00	
MISCELLANEOUS	DMD APERTURE_DPD-S290_00_NO PAINTING_ROHS	P3K35-0010-00	
SCREW	HEXAGON-HEAT-BOLT-4.B_3M_ROHS	B2035-2510-00	

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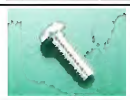
SCREW	SCREW_TP_2.6_7_A_1.6_D=4.3_NI_NONE_ROHS	J1635-3673-00	
SCREW	SCREW-WASHER._TP_2_5_D_1_D=3.2_SUS_NONE_SUS_ROHS	J1635-2901-00	
SCREW	SCREW_M_2.5_7_A_2_D=4.5_NI_NONE_ROHS	J1635-A074-00	
SCREW	SCREW-WASHER_M_2_4_A_1.3_D=3.5_BLACK_NONE_PB P_ROHS	J1635-3172-00	
SCREW	SCREW_M_2_5_A_D=3_A0.B_BLACK_HEAT-TREATMENT_ROHS	J1635-2250-00	
SCREW	SCREW._TP_2_2.3_A_1_D=3_BLACK_NONE_ROHS	J1635-2290-00	
SCREW	SCREW._M_2_6_A_1.3_D=3.2_NI_HEAT-TREATMENT_ROHS	J1635-2021-00	
SCREW	FRONT FOOT_APD-S40B0_00_NO PAINTING_ROHS	P3Y34-4540-00	

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